

IN THE SPECIFICATION:

Please amend the indicated paragraphs of the specification in accordance with the amendments indicated below.

Page 2: Last paragraph, bridging pages 2 and 3, amend as indicated below:

[0011] Thus, claim 1 relates to a hot work tool steel characterized by having a composition in ~~wt~~ mass %: C: 0.10 % to 0.35 %, Si: less than 0.80 %, Mn: 3.0 % or less, Cr: 2.0 % or more and less than 7.0 %, 1/2W + Mo: 0.3 % to 5.0 %, N: more than 0.05 % and 0.50 % or less, C + N: 0.20 % to 0.60 % (with a proviso that C/N: 6 or less), O: 0.0100 % or less, P: 0.050 % or less, Al: 0.050 % or less, and the balance: substantially Fe.

Page 2: 1st full paragraph, amend as indicated below:

[0012] Claim 2, dependent from claim 1, is characterized by further containing, in ~~wt~~ mass %, V: 0.01 % or more and 0.3 % or less.

Page 2: 2nd full paragraph, amend as indicated below:

[0013] Claim 3, dependent from claim 1 or claim 2, is characterized by further containing, in mass %, at least one of Ni: 2.0 % or less and Co: 5.0 % or less.

Page 2: 3rd full paragraph, amend as indicated below:

[0014] Claim 4, dependent from any of claims 1 through 3, is characterized by further containing, in mass %, at least one of Ti: 1.0 % or less, Ta: 1.0 % or less, B: 0.010 % or less, and Cu: 1.0 % or less.

Page 2: 4th full paragraph, amend as indicated below:

[0015] Claim 5, dependent from any of claims 1 through 4, is characterized by further containing, in mass %, at least one of S: 0.050 % or less, Ca: 0.0100 % or less, Se: 0.0100 % or less, Te: 0.0100 % or less, Zr: 0.0100 % or less, Mg: 0.0100 % or less, and Y: 0.100 % or less.

Page 6: 1st full paragraph, amend as indicated below:

[0029] However, in the case where the invention steel contains V, it is needed to limit the content of V to a small amount ~~less than 0.5 %~~ not more than 0.3 %.

Page 11: Last paragraph, bridging pages 11 and 12, amend as indicated below:

[0057] V: 0.01 % or more and ~~less than 0.5 %~~ 0.3 % or less

V is effective to form carbide and thereby strengthen the base metal and improve the wear resistance thereof, and is also effective to form fine carbide grains and thereby refine the crystal grains of the steel and increase the toughness thereof. Thus, the invention steel may contain not less than 0.01 % of V, as needed.

Page 12: 1st full paragraph, amend as indicated below:

[0058] However, if the V content is excessive, then coarse of eutectic carbide or carbonitride are produced when an ingot steel is formed, and amounts of carbide and carbonitride that are not solved upon quenching increase and accordingly toughness and wear resistance lower. Therefore, the V content is limited to ~~less than 0.5 %, preferably, not more than 0.4 %, more preferably,~~ not more than 0.3 %.

Page 17: Table 1, amend as indicated on the following separate page:

TABLE 1 CHEMICAL COMPOSITION

| | C | Si | Mn | Cr | Mo | W | 1/2W+Mo | V | O | N | C+N | C/N | Cu | Ni | Co | Al | P | S | Fe | OTHERS | |
|-----------------------|------|-------------------------|------|------|------|------|---------|------|--------|--------|-------|-------|------|------|------|-------|-------|-------|-------|--------------------------|--------------------------|
| INVENTION EXAMPLES | 1 | 0.25 | 0.12 | 0.63 | 5.21 | 2.03 | - | 2.03 | 0.05 | 0.0012 | 0.152 | 0.402 | 1.64 | - | - | 0.026 | 0.013 | 0.007 | Bal. | | |
| | 2 | 0.22 | 0.14 | 0.81 | 5.64 | 1.52 | - | 1.52 | 0.03 | 0.0025 | 0.202 | 0.422 | 1.09 | - | - | 0.016 | 0.012 | 0.015 | " | | |
| | 3 | 0.31 | 0.17 | 0.62 | 5.43 | 2.98 | - | 2.98 | - | 0.0018 | 0.283 | 0.593 | 1.10 | - | - | 0.021 | 0.014 | 0.006 | " | | |
| | 4 | 0.14 | 0.24 | 0.78 | 4.97 | 2.03 | - | 2.03 | 0.09 | 0.0022 | 0.221 | 0.361 | 0.63 | - | - | 0.034 | 0.009 | 0.008 | " | | |
| | 5 | 0.22 | 0.05 | 0.63 | 5.52 | 3.04 | - | 3.04 | - | 0.0017 | 0.157 | 0.377 | 1.40 | - | - | 0.028 | 0.015 | 0.007 | " | | |
| | 6 | 0.34 | 0.16 | 0.58 | 3.04 | 2.47 | - | 2.47 | 0.12 | 0.0014 | 0.183 | 0.523 | 1.86 | - | - | 0.008 | 0.049 | 0.006 | " | | |
| | 7 | 0.11 | 0.08 | 0.75 | 5.89 | 1.97 | - | 1.97 | 0.09 | 0.0006 | 0.098 | 0.208 | 1.12 | - | 0.84 | - | 0.014 | 0.011 | 0.006 | " | |
| | 8 | 0.17 | 0.26 | 0.59 | 6.03 | 1.24 | - | 1.24 | 0.11 | 0.001 | 0.173 | 0.343 | 0.98 | - | - | 0.048 | 0.013 | 0.007 | " | Ca:0.0051% | |
| | 9 | 0.23 | 0.28 | 0.84 | 6.54 | 0.38 | - | 0.38 | 0.25 | 0.0021 | 0.185 | 0.415 | 1.24 | - | 1.24 | - | 0.034 | 0.014 | 0.003 | " | |
| | (10) | 0.20 | 0.14 | 0.71 | 5.31 | 2.82 | - | 2.82 | 0.31 | 0.0013 | 0.171 | 0.371 | 1.17 | - | - | 0.022 | 0.015 | 0.004 | " | | |
| | (11) | 0.28 | 0.32 | 0.69 | 4.58 | 2.23 | - | 2.23 | 0.48 | 0.0017 | 0.237 | 0.517 | 1.18 | 0.62 | - | - | 0.018 | 0.012 | 0.007 | " | |
| | (12) | 0.11 | 0.05 | 2.53 | 3.52 | 4.98 | - | 4.98 | 0.39 | 0.0013 | 0.487 | 0.597 | 0.23 | - | - | 0.004 | 0.003 | 0.001 | " | | |
| | 13 | 0.34 | 0.78 | 1.25 | 5.34 | 2.91 | - | 2.91 | - | 0.0009 | 0.058 | 0.398 | 5.86 | - | 0.74 | - | 0.028 | 0.019 | 0.009 | " | |
| | 14 | 0.21 | 0.08 | 2.91 | 6.76 | 2.35 | - | 2.35 | 0.07 | 0.0093 | 0.313 | 0.523 | 0.67 | - | - | 0.019 | 0.015 | 0.012 | " | | |
| | (15) | 0.11 | 0.07 | 0.58 | 6.52 | 0.85 | 4.81 | 3.26 | 0.46 | 0.0014 | 0.187 | 0.297 | 0.59 | - | - | 1.24 | 0.031 | 0.014 | 0.044 | " | Ca:0.0082% Zr:0.0061% |
| 16 | 0.34 | 0.34 | 0.61 | 6.13 | 0.33 | - | 0.33 | 0.38 | 0.0013 | 0.224 | 0.564 | 1.52 | - | - | 2.97 | 0.018 | 0.013 | 0.021 | " | B:0.008% | |
| 17 | 0.28 | 0.29 | 0.92 | 5.46 | 3.48 | 0.62 | 3.79 | 0.18 | 0.0017 | 0.312 | 0.592 | 0.90 | - | - | - | 0.004 | 0.01 | 0.048 | " | | |
| 18 | 0.21 | 0.15 | 0.73 | 5.53 | 2.08 | 1.52 | 2.84 | 0.23 | 0.0016 | 0.291 | 0.501 | 0.72 | - | - | - | 0.023 | 0.015 | 0.025 | " | Ti:0.76% Ta:0.81% | |
| 19 | 0.33 | 0.24 | 0.58 | 6.92 | 1.98 | - | 1.98 | 0.14 | 0.0023 | 0.143 | 0.473 | 2.31 | - | - | 4.98 | 0.021 | 0.012 | 0.043 | " | Se:0.0065% Te:0.0041% | |
| (20) | 0.26 | 0.19 | 0.61 | 6.24 | 2.76 | - | 2.76 | 0.35 | 0.0014 | 0.162 | 0.422 | 1.60 | - | - | - | 0.033 | 0.013 | 0.008 | " | Mg:0.0058% Y:0.082% | |
| COMPARATIVE STEELS | 21 | 0.41 | 0.15 | 0.63 | 5.52 | 3.04 | - | 3.04 | 0.03 | 0.0017 | 0.417 | 5.57 | - | - | - | 0.028 | 0.015 | 0.007 | " | | |
| | 22 | 0.42 | 0.16 | 0.59 | 5.45 | 2.98 | - | 2.98 | 0.01 | 0.016 | 0.185 | 0.605 | 2.27 | - | - | 0.019 | 0.014 | 0.005 | " | | |
| | 23 | 0.32 | 0.14 | 0.67 | 5.57 | 2.97 | - | 2.97 | 0.08 | 0.018 | 0.183 | 0.503 | 1.75 | - | - | 0.025 | 0.013 | 0.007 | " | | |
| | 24 | 0.07 | 0.17 | 0.71 | 5.48 | 3.01 | - | 3.01 | 0.97 | 0.012 | 0.181 | 0.188 | 0.39 | - | - | 0.027 | 0.016 | 0.008 | " | | |
| | 25 | 0.45 | 0.16 | 0.64 | 5.51 | 2.98 | - | 2.98 | 0.31 | 0.019 | 0.182 | 0.632 | 2.47 | - | - | 0.016 | 0.014 | 0.006 | " | | |
| | 26 | 0.29 | 0.26 | 0.68 | 5.56 | 3.03 | - | 3.03 | 0.27 | 0.021 | 0.178 | 0.468 | 1.63 | - | - | 0.018 | 0.013 | 0.005 | " | | |
| | 27 | 0.38 | 0.02 | 0.42 | 5.12 | 1.23 | - | 1.23 | 0.06 | 0.0015 | 0.009 | 0.389 | 4.22 | - | - | 0.019 | 0.015 | 0.007 | " | JIS SKD61 | |
| | 28 | 0.38 | 0.85 | 0.41 | 4.96 | 1.21 | 1.36 | 1.89 | 0.44 | 0.0018 | 0.005 | 0.385 | 76.0 | - | - | 0.022 | 0.011 | 0.006 | " | JIS SKD62 | |
| | 29 | 0.40 | 0.42 | 0.49 | 4.35 | 0.41 | 4.24 | 2.53 | 2.83 | 0.0012 | 0.007 | 0.407 | 57.4 | - | 4.03 | 0.024 | 0.016 | 0.007 | " | JIS SKD8 | |
| | * | * : CONVENTIONAL STEELS | | | | | | | | | | | | | | | | | | | |

* : CONVENTIONAL STEELS

Page 20: 2nd full paragraph, amend as indicated below:

[0087] The obtained results are shown in TABLE 3 (invention examples (10), (11), (12), and (15) are for reference).

Page 22: Table 3, amend as indicated on the following separate page:

TABLE 3

| | No. | MELTING- LOSS PERCENTAGE (%) | 650°C- TEMPERING HARDNESS (HRC) | CHARPY IMPACT VALUE (J/cm ²) | AVERAGE CRACK LENGTH (μm) | WEAR RESISTANCE | REMARKS |
|--------------------|------|---------------------------------------|--|--|---------------------------------|--------------------|-----------|
| INVENTION EXAMPLES | 1 | 1.8 | 42.3 | 4.6 | 1.7 | 10.5 | |
| | 2 | 1.5 | 41.7 | 4.4 | 1.6 | 10.7 | |
| | 3 | 1.2 | 43.4 | 4.8 | 1.9 | 10.2 | |
| | 4 | 1.9 | 40.7 | 4.2 | 1.7 | 10.3 | |
| | 5 | 1.6 | 41.9 | 4.7 | 1.3 | 10.2 | |
| | 6 | 1.7 | 43.7 | 3.1 | 1.9 | 10.8 | |
| | 7 | 1.9 | 40.3 | 4.7 | 1.6 | 10.3 | |
| | 8 | 1.8 | 41.2 | 4.3 | 1.2 | 10.4 | |
| | 9 | 1.9 | 42.4 | 4.6 | 1.8 | 10.2 | |
| | (10) | 1.7 | 41.5 | 4.2 | 1.1 | 10.6 | |
| | (11) | 1.6 | 43.8 | 3.4 | 1.3 | 11.4 | |
| | (12) | 1.2 | 43.2 | 3.7 | 1.7 | 10.8 | |
| | 13 | 1.9 | 41.3 | 4.8 | 1.4 | 10.3 | |
| | 14 | 1.3 | 43.6 | 4.3 | 1.8 | 10.3 | |
| | (15) | 1.4 | 40.9 | 3.6 | 1.6 | 11.6 | |
| | 16 | 1.2 | 43.8 | 3.5 | 1.7 | 11.3 | |
| | 17 | 1.3 | 44.3 | 3.7 | 1.9 | 10.2 | |
| | 18 | 1.7 | 43.5 | 4.1 | 1.7 | 11.0 | |
| | 19 | 1.2 | 42.4 | 3.2 | 1.8 | 10.7 | |
| | (20) | 1.6 | 42.1 | 3.4 | 1.7 | 11.2 | |
| COMPARATIVE STEELS | 21 | 3.2 | 44.2 | 3.6 | 1.1 | 12.2 | |
| | 22 | 1.8 | 44.8 | 1.7 | 1.4 | 12.8 | |
| | 23 | 2.8 | 44.1 | 3.3 | 1.6 | 12.1 | |
| | 24 | 3.7 | 41.3 | 4.6 | 2.2 | 11.7 | |
| | 25 | 1.7 | 43.9 | 2.5 | 2.3 | 10.4 | |
| | 26 | 2.2 | 43.7 | 1.2 | 3.9 | 10.2 | |
| * | 27 | 5.7 | 43.3 | 2.8 | 2.5 | 10.0 | JIS SKD61 |
| | 28 | 3.8 | 45.1 | 3.6 | 4.2 | 10.8 | JIS SKD62 |
| | 29 | 4.1 | 46.7 | 2.6 | 3.2 | 12.4 | JIS SKD8 |

* : CONVENTIONAL STEELS